

Fabien Houang

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EDUCATION

EPITA

MSC IN COMPUTER SCIENCE
 2015-2019 | Paris, France
SCIA - Major in Data Science and Artificial Intelligence

LINKS

LinkedIn:// [houang-fabien](#)
 Gitlab:// [fabien_houang](#)

COURSEWORK

Unix Tools and Scripting
 Data Structures
 Software Development
 Advanced Algorithms
 Functional Programming
 Probabilities & Statistics
 Big Data & Data Processing
 Features Extraction
 Convex Optimization
 Computer Vision
 Machine Learning
 Deep Learning Engineering
 Cloud Computing

SKILLS

PROGRAMMING

Proficient:
 C/C++ • Python • Java • \LaTeX
 Linux shell • SQL | PostgreSQL
 Comfortable:
 Go • Javascript • Scala • Ruby
 NoSQL | MongoDB • Rails • Django
 Familiar:
 Caml • Matlab • Lua

LIBRARIES & TOOLS

Proficient:
 Keras • Numpy • OpenCV
 Pytorch • Google Colab • VTK
 OpenMP • Optuna • Neptune
 Jupyter Notebook • Matplotlib
 Sacred | Omniboard • GIT
 Comfortable:
 Pandas • Seaborn • Scikit-Learn
 GCP • Tensorflow
 Familiar:
 AWS • Spark • Hadoop

LANGUAGES

English Fluent
 French Native
 Chinese(Mandarin) Proficient

EXPERIENCE

SIEMENS HEALTHINEERS | RESEARCH ENGINEER IN DEEP LEARNING

Mar 2019 - Mar 2020 | Princeton, New Jersey, United States

Skills : C/C++, Python, PyTorch, Optuna, OpenMP, OpenCV, Sacred | Omniboard, VTK

- Collaborated on **3D cardiac chambers modelization** project using 3D ultrasounds
- Trained **Multi-Agent Deep Reinforcement Learning** [1] for landmarks detection
- Implemented and trained 3D volumes classification models on unbalanced dataset
- Optimized production code speed and optimized models hyper-parameters
- Achieved **3x faster and 10% more accurate modelization** than the base solution

III-FINANCEMENTS | FULL STACK DEVELOPER

Sep 2017 - Feb 2018 | Paris, France

- Developed a management web application and statistical analysis dashboards
- Designed Front-end, Back-end, and Database Modeling using **Ruby on Rails**
- Deployed the application and is currently used by more than 80% of the staffs

LRDE - EPITA R&D LAB | RESEARCH STUDENT

Jan 2017 - Sep 2017 | Paris, France

- Worked with **G.Tochon** to implement a generic and optimized **Binary Partition Tree** [2], a hierarchical representation for image processing in **C++**
- Evaluated BPT noise resistance and noise influence on the structure construction

ATOS | WEB APPLICATION DEVELOPER

Jun 2016 - Aug 2016 | Paris, France

- Worked for their client GRDF (Gas Networks of France)
- Created Data Visualization applications for their decision-making department
- Provided documentations on the developed applications and the source code
- Launched developed applications to Production

PROJECTS

AUTONOMOUS RACING CAR | PYTHON, KERAS 🏁

Apr 2018 - Feb 2019 | Paris, France

- Led a team of 4 students and competed against more than **20 teams nationwide**
- Built an autonomous RC car connected to a **Raspberry Pi 3** with camera module
- Collected, processed and simulated data for Deep Learning training
- Designed, trained **time and memory efficient** models to run on embedded system

CHESS GAME WITH AI | C, C++

Apr 2017 - May 2017 | Paris, France

- Collaborated in a team of 3 students and competed against **25 teams at EPITA**
- Implemented chessboard game with **bitboards**(64bits) and bitwise operations
- Used **Negamax Algorithm** and optimized with **Alpha Beta Pruning** for the AI

AWARDS

2018	1 st /10	DIY Robocars France, Fall Race (Self-Driving Car)	🏆
2018	3 rd /20	IronCar France, Summer Race (Self-Driving Car)	🏆
2017	3 rd /25	Chess AI Tournament at EPITA	

- [1] F. Ghesu, B. Georgescu, Y. Zheng, S. Grbic, A. Maier, J. Hornegger, and D. Comaniciu. Multi-scale deep reinforcement learning for real-time 3d-landmark detection in ct scans. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, PP:1-1, 12 2017.
- [2] G. Tochon. *Hierarchical analysis of multimodal images. Signal and Image processing*. PhD thesis, Universite Grenoble Alpes, 2015.